

REMARKS

Claims 1-20 are in the case.

Claims 1-13 and 20 stand rejected under the judicially created doctrine of obviousness-type double-patenting as unpatentable over U.S. Patent No. 6,228,199. Although the conflicting claims are not identical, the Examiner has taken the position that they are not patentably distinct from each other because each claims a process for forming synthetic wood material, providing continuous glass fibers, contacting with a resorcinol modified phenolic resin binder, pultruding the fibers and resin, curing the binder and oxidative treating the article.

The nonstatutory double patenting rejection of Claims 1-13 and 20 under the judicially created doctrine of obviousness-type double patenting based on U.S. Patent 6,228,199 is a judicially created doctrine to prevent the unjustified or improper time extension of the right to exclude granted by a patent and to prevent possible harassment by multiple assignees. A timely filed terminal disclaimer in compliance with 37 C.F.R. §1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. Applicants' Attorney of Record has executed and

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herewith submits a Terminal Disclaimer in compliance with 37 C.F.R. §1.321 (b) and (c). The Terminal Disclaimer is submitted in respect to the U.S. Patent No. 6,228,199, which is owned by and assigned to Balaba Concrete Supply, Inc. who also owns and controls, as the owner and assignee of the entire right, title, and interest of, the present patent application U.S. Serial No. 09/755,778. Accordingly, the rejection of Applicants' Claims 1-13 and 20 under the judicially created doctrine of double patenting over U.S. Patent No. 6,228,199 is believed to have been overcome by the filing of the within Terminal Disclaimer, and the rejection is respectfully requested to be withdrawn.

Claims 14-19 stand rejected under 35 U.S.C. §103(a) as unpatentable over Klett U.S. Patent No. 5,605,757 (hereinafter "Klett") in view of Souders et al. U.S. Patent No. 5,395,108 (hereinafter "Souders") and Dailey, Jr. U.S. Patent No. 5,075,414 (hereinafter "Dailey").

The Klett disclosure teaches the use of a size to improve strength characteristics and nowhere teaches or suggests passivation. Passivation is making the surface non-reactive. Passivation and strength improvement are neither equivalent, nor are they related. Therefore, it is not obvious that treatments that afford strength improvement would also afford passivation.

Applicants' invention utilizes passivation to increase the pH window of stability, and reaction kinetics.

At high pH, caustic attacks the glass. To prevent the attack, Applicants' invention selects a preferred coating which would not claim to be a size. The size prevents self-abrasion. The coating of Applicants' invention provides passivation.

Klett nowhere teaches or suggests employing a resorcinol modified phenolic resin binder and nowhere teaches or suggests the pultruded product to an oxidative treatment.

Sanding, as disclosed by Souders, is a mechanical phenomenon and affects only the top surface. The oxidative treatment of Applicants' invention, on the other hand, is chemical in nature. Since it is not obvious to interchange physical and chemical processes, Applicants' invention is distinguishable over Souders. Mechanical polishing is a physical phenomenon, not chemical as required by Applicants' invention.

Dailey is limited and does not have the passivation step as required by Applicants' invention.

There is no motivation found in the references to combine the references of Klett, Souders, and Dailey and come up with the method of Applicants' invention.

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cants' invention, except on the basis of reconstructive hindsight after having the benefit of Applicants' disclosure.

Assuming, but not granting or admitting, that one would have combined the Klett, Souders, and Dailey references, one would not have come up with the novel method of Applicants' invention nor the specific combination of elements of Applicants' invention except by using reconstructive hindsight after reading Applicants' disclosure.

The Examiner has not established a *prima facie* case of obviousness, and the Examiner's assumptions do not constitute the disclosure of prior art. The prior art relied upon does not disclose, suggest, or render obvious Applicants' invention, either individually or when combined.

The Supreme Court in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), focused on the procedural and evidentiary processes in reaching a conclusion under 35 U.S.C. §103. As adapted to *ex parte* procedure, *Graham* places the "burden of proof on the Patent Office and requires it to produce the factual basis for its rejection of an application under sections 102 and 103." *In re Warner*, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967).

Applicants' invention requires structural elements not taught in Klett, Souders, and Dailey.

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As set forth in *In re Bond* (CAFC) 15 USPQ 2nd 1566 8/3/90, the Office Action analysis is a classical example of a hindsight reconstruction of Applicants' invention.

A retrospective view of an Examiner's assertion of so-called known art is not a substitute for some teaching or suggestion which supports the selection and use of the various elements in the particular inventive combination. *Smithkline Diagnostics v. Helena Laboratories Corp.*, 859 F.2d 878, 886-87, 8 USPQ 2d 1468, 1475 (Fed. Cir. 1988). It is well established that in deciding that a novel combination would have been obvious, there must be supporting teaching in the prior art.

"That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown." *In re Spormann*, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966). There is no suggestion or motivation in the prior art to combine these elements as combined by Applicants. See *In re Laskowski*, 871 F.2d 115, 117, 10 USPQ 2d 1397, 1398-99 (Fed. Cir. 1989); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). The motivation to make a specific structure "is not abstract, but practical, and is always related to the properties or uses one skilled in the art would expect the [structure] to have, if made."

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See *In re Gyurik*, 596 F.2d 1012, 1018, 201 USPQ 552, 557 (CCPA 1979).

See also *Fromson v. Advance Offset Plate*, 755 F.2d 1549, 1556, 225 USPQ 26, 31 (Fed. Cir. 1985) ("The critical inquiry is whether 'there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'").

Assuming, but not admitting that a *prima facie* case of obviousness has been established, the burden of going forward shifts to the Applicant. Rebuttal is merely "a showing of facts supporting the opposite conclusion," *In re Heldt*, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the *Graham* factors including the so-called secondary considerations. *Perkin Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); *In re Sernaker*, 702 F.2d at 996-97, 217 USPQ at 7-8.

If rebuttal evidence of adequate weight is produced, the holding of *prima facie* obviousness, being but a legal inference from previously uncontradicted evidence, is dissipated. Regardless of whether the *prima facie* case would have been characterized as strong or weak, the examiner must consider all of the evidence anew. The process is as stated in *In re Rinehart*, 531

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F.2d 1048, 1052, 189 UPSQ 143, 147 (CCPA 1976): When *prima facie* obviousness is established and evidence is submitted in rebuttal, the decision-maker must start over. An earlier decision should not be considered as set in concrete, and Applicants' rebuttal evidence then be evaluated only on its knockdown ability.

Analytical fixation on an earlier decision can tend to provide that decision with an undeservedly broadened umbrella effect.

Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself.

Applicants' invention provides a fire resistant and fungal/termite resistant glass, aramid, or ceramic fibers or filaments reinforced in fire and fungal/termite resistant phenolic, furanic, or ceramic matrices.

Applicants' fibers or filaments are processed by passing the fiber or filament component into a bath or vessel of the liquid resin binder. Then the resin impregnated filament is passed through one or more dies having an aperture opening of smaller dimension than that of the composite of the resin binder saturated filament component.

The die operates to wring out excess resin binder and to compress and form the resin binder saturated filament into the predetermined shape of the die.

The resin binder impregnated filament is pulled as a continuous strand from the pultrusion die.

The composite then can be cured with heat or other curing means.

The pultruded and cured product then can be cut into desired lengths.

When the artificial wood substitutes of Applicants' invention are machined or cut, the nascent surface has an appearance that is lighter than the color of the longer-lived surfaces. Thus, the nascent surface of the machined or cut artificial wood substitute may be sometimes different from the color of the longer-lived surfaces. Such a different color is a disadvantage because it detracts from the quality of visual appeal of the artificial wood substitutes of Applicants' invention.

Thus, subsequent to forming nascent surface of the artificial wood substitutes of Applicants' invention, Applicants have found that it is important to subject the machined surface to an oxidative treatment. Such an oxidative treatment is provided by a physical or chemical treatment. An example of such a physical

oxidative treatment is flame treatment. Another example of such a physical oxidative treatment is frictional rubbing. Applicants have found that flame treatment is particularly advantageous in restoring color. Nevertheless, other treatments such as treatment with chemical oxidants are used. Examples of suitable chemical oxidants are hydrogen peroxide or benzyl peroxide.

Applicants have found that it is important to precoat the substrate before impregnating with resin. The precoating can be provided by a furfuryl alcohol resin. The precoating step of the process of Applicants' invention provides for a full furfuryl alcohol interaction and full coatability of the fibers. It is an important difference that the precoating step of the process of Applicants' invention avoids any interaction wherein the furfuryl alcohol is chemically bound into the binder network.

Applicants' invention overcomes problems with additions of furfuryl alcohol in the resin binder wherein the furfuryl alcohol is tied up chemically in the resin binder, which limits interaction of the furfuryl alcohol with the fibers.

The precoating step provides for the ability to use the fibers of the substrate of Applicants' invention in hostile chemical environments, high pH, and higher temperatures. The higher temperatures provide for significantly higher throughput.

Other precoating materials are provided by coating formulations possessing high thermal stability, and examples are polyimides.

The composite of Applicants' invention is free of the natural and pest rendered defects associated with natural wood.

In one aspect, the fiber or filament of Applicants' invention is an E glass containing low amounts of alkali, high tensile strength, and high elasticity with low elongation. The glass fibers are sized in the range of about 80 to 100×10^{-5} inches in diameter. Bundles of the glass fibers contain a number of glass fibers in the range of about 100 to 5000.

In one aspect, the fiber or filament of Applicants' invention are filaments made of graphite, carbon, aramid (Kevlar), filaments of polypropylene or polyester, and combinations of these filament materials.

The resorcinol modified resin binder used in Applicants' invention is a reaction product of a resorcinol and a phenolic resole resin.

The synthetic wood appearance is provided by the resin binder of Applicants' invention and the way it is reacted. The resin binder of Applicants' invention is processed in a way so that it is auto-catalyzed, i.e., the resin binder is allowed to

react such that it is contacted with no external catalyst introduced into the resin binder stock itself. The importance of this difference is that the resin binder of Applicants' invention will minimize darkening of the resin binder with curing.

The resorcinol modified component of the resin binder of Applicants' invention provides a reddish hue to the finished article of Applicants' invention in a way to simulate the appearance of wood and provide the synthetic wood article of Applicants' invention.

Unlike prior art processes, the phenolic resin binder of Applicants' invention is not acid catalyzed. The importance of this difference is that the resin binder of Applicants' invention will not corrode a steel die.

Unlike prior art processes, the phenolic resin binder of Applicants' invention does not use a basic, e.g., alkaline catalyst. The importance of this difference is that the fiber, e.g., glass fiber, of Applicants' invention will not be weakened by the presence of the basic catalyst.

The synthetic wood of Applicants' invention is formed by impregnating the glass fiber through a resin binder bath to impregnate the fiber glass filaments with resin binder in liquid form. The impregnated filaments then are pultruded and cured.

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The pultruded composite may be cut to predetermined lengths to form the synthetic wood articles of Applicants' invention.

The synthetic wood articles of Applicants' invention can be produced in a variety of different cross-sectional shapes, e.g., such as rectangular, flat, cylindrical, angular designs, e.g., by way of one example such as star shaped, or other designs, e.g., such as oval.

The synthetic wood articles of Applicants' invention can be produced in a variety of finished products, e.g., such as boards, strips, tubes, rods, or sheets.

The product and process of Applicants' invention provide a degradation resistant, strong, and light weight composite as a substitute for natural wood products.

For the foregoing reasons, the rejection of Applicants' Claims 14-19 under 35 U.S.C. §103(a) as unpatentable over Klett U.S. Patent No. 5,605,757 in view of Souders U.S. Patent No. 5,395,108 and Dailey, Jr. U.S. Patent No. 5,075,414 is based on an improper combination of references and further is based on insufficient references and is respectfully requested to be withdrawn.

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Reconsideration of this Application is requested.

Respectfully submitted,

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